

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

4,192,558), Poindexter (US 4,080,254), or Westinghouse Electric Corporation (FR 2,373,858) is respectfully traversed.

Gregson describes rotary bearing arrangements for supporting large heavy objects such as rotatable sections of shielding in nuclear reactors. Figure 1 shows part of the roof of the shielding of a nuclear reactor having a refuelling machine mounted on the shielding. The horizontal roof of the shielded enclosure includes a large aperture that is closed by rotatable cover sections. The refuelling machine is mounted to one of the rotatable cover sections. As shown in Figure 1, the refuelling machine includes a tubular member that is supported by and extends through one of the rotatable cover sections. The refuelling machine includes a work platform attached to the upper portion of the tubular member. The work platform includes a plurality of ribs extending from the outer wall of the tubular member. A floor is supported by the ribs. Stairs extend down from the work platform to the top of the rotatable cover section supporting the refuelling machine.

Claim 1 recites a reactor servicing platform for a nuclear reactor. The reactor servicing platform includes a frame, a support structure attached to the frame, and a floor attached to and covering the frame. The frame includes a plurality of interconnected beams, and the floor includes a reactor access opening sized to permit access to the reactor pressure vessel. The reactor servicing platform further includes at least one auxiliary platform extending into the access opening. The at least one auxiliary platform is movable along a perimeter of the access opening of the floor.

Gregson does not describe nor suggest a reactor servicing platform as recited in Claim 1. Particularly, Gregson does not describe nor suggest a reactor servicing platform that includes a

floor having a reactor access opening and at least one auxiliary platform extending into the access opening in the platform floor with the at least one auxiliary platform movable along a perimeter of the access opening. Rather, Gregson, in Figure 1, shows a work platform attached to the tubular member of the refuelling machine. The tubular member occupies the entire area of the circular opening in the floor of the work platform. The Office Action, at page 3, suggests that "reactor access opening" reads on the aperture through which the refuelling machine 15 penetrates the concrete vessel 10 and that "auxiliary platform" reads on auxiliary structure 17. Applicants respectfully disagree with these suggestions because the aperture through which the refuelling machine penetrates the concrete vessel is not an opening in the floor of the reactor servicing platform as recited in Claim 1 but rather an opening in the roof of the reactor shielding. Also, the rotatable cover section 17 does not extend into the opening in the floor of the of the work platform attached to the tubular member of the refuelling machine but rather extends into the opening in the roof of the reactor shielding. Further, it appears the refuelling machine is supported by the cover section 17 in a fixed position and moves as the cover section 17 rotates. Cover section 17 rotates around the perimeter of aperture 16 in main cover section 14 and does not move along the perimeter of the opening in the work platform attached to the tubular member of the refuelling machine. Accordingly, Applicants submit that Claim 1 is patentable over Gregson.

Claims 4-8 and 11-12 depend from independent Claim 1. When the recitations of dependent Claims 4-8 and 11-12 are considered in combination with the recitations of Claim 1, Applicants respectfully submit that Claims 4-8 and 11-12 likewise are patentable over Gregson

Claim 13 of the present application recites a nuclear reactor that includes a primary containment vessel, a reactor pressure vessel positioned in the primary containment vessel, and a reactor servicing platform. The reactor servicing platform includes a frame, a support structure attached to the frame, and a floor attached to and covering the frame. The frame includes a plurality of interconnected beams and the floor includes a reactor access opening sized to permit access to the reactor pressure vessel, and at least one auxiliary platform extending into the access opening. The at least one auxiliary platform is movable along a perimeter of the access opening of the floor.

Gregson does not describe nor suggest a nuclear reactor as recited in Claim 13. Particularly, for the reasons set forth above, Gregson does not describe nor suggest a reactor servicing platform that includes a floor having a reactor access opening and at least one auxiliary platform extending into the access opening in the platform floor with the at least one auxiliary platform movable along a perimeter of the access opening. Accordingly, Applicants submit that Claim 13 is patentable over Gregson.

Claims 16-18, 21, and 23 depend from independent Claim 13. When the recitations of dependent Claims 16-18, 21, and 23 are considered in combination with the recitations of Claim 13, Applicants respectfully submit that Claims 16-18, 21, and 23 likewise are patentable over Gregson.

Claim 24 of the present application recites a method of servicing a nuclear reactor during a reactor outage. The method includes positioning a servicing platform above the reactor pressure vessel and performing predetermined servicing operations. The servicing platform includes a frame, a support structure attached to the frame, and a floor attached to the frame.

The frame includes a plurality of interconnected beams, and the floor includes a reactor access opening sized to permit access to the reactor pressure vessel and at least one auxiliary platform extending into the access opening. The at least one auxiliary platform is movable along a perimeter of the access opening of the floor.

Gregson does not describe nor suggest a method of servicing a nuclear reactor as recited in Claim 24. Particularly, for the reasons set forth above, Gregson does not describe nor suggest a reactor servicing platform that includes a floor having a reactor access opening and at least one auxiliary platform extending into the access opening in the platform floor with the at least one auxiliary platform movable along a perimeter of the access opening. Accordingly, Applicants submit that Claim 24 is patentable over Gregson.

Claims 27, 28, 31 and 33 depend from independent Claim 24. When the recitations of dependent Claims 27, 28, 31 and 33 are considered in combination with the recitations of Claim 24, Applicants respectfully submit that Claims 27, 28, 31 and 33 likewise are patentable over Gregson.

Wade describes a self lubricating bearing for a nuclear reactor that includes a reactor vessel 14 closed at its top end by a closure head that includes a stationary outer ring 24, a large rotatable plug 26, an intermediate rotatable plug 28, and a small rotatable plug 30. The stationary outer ring 24 is attached to reactor vessel 14 by bolts 32. The large rotatable plug 26 is supported from the stationary outer ring 24 by large riser assembly 34. The outer edge of large rotatable plug 26 together with the inner edge of stationary outer ring 24 define an annulus 36 therebetween. The large riser assembly 34 is driven by a large plug drive mechanism 38 that enables the large rotatable plug 26 to move relative to stationary outer ring 24 while maintaining

a fluid tight boundary between the outside and inside of reactor vessel 14. Also, intermediate rotatable plug 28 is disposed eccentrically within large rotatable plug 26, supported by intermediate riser assembly 40 defining an annulus 42 therebetween, and is driven by intermediate plug drive mechanism 44 in a manner similar to that of the large riser assembly 34. Likewise, the small rotatable plug 30 is similarly eccentrically disposed within intermediate rotatable plug 28, supported by small riser assembly 46 defining an annulus 48 therebetween, and driven by small plug drive mechanism 50. Wade does not describe nor suggest a reactor servicing platform.

Wade does not describe nor suggest a reactor servicing platform as recited in Claim 1, nor a nuclear reactor as recited in Claim 13, nor a method of servicing a nuclear reactor as recited in Claim 24. Particularly, Wade does not describe nor suggest a reactor servicing platform that includes a frame comprising a plurality of interconnected beams, a support structure attached to the frame, and a floor attached to and covering the frame, the floor including a reactor access opening sized to permit access to the reactor pressure vessel. Rather, Wade describes a reactor vessel closed at its top end by a closure head that includes a stationary outer ring, a large rotatable plug, an intermediate rotatable plug, and a small rotatable plug. Specifically, Wade does not describe nor suggest a reactor servicing platform. The Office Action, at page 3, suggests that "'frame' reads on the inner jacket structure of pressure vessel 14, which directly encloses coolant 22". Applicants respectfully disagree with this suggestion because the inner jacket structure shown in Figure 1 of Wade is not a frame that includes a plurality of interconnected beams. Accordingly Applicants submit that independent Claims 1, 13, and 24 are patentable over Wade.

Claims 4-8 and 11-12 depend from independent Claim 1, Claims 16-18, 21, and 23 depend from independent Claim 13, and Claims 27, 28, 31 and 33 depend from independent Claim 24. When the recitations of dependent Claims 4-8 and 11-12, 16-18, 21, and 23, and 27, 28, 31 and 33 are considered in combination with the recitations of Claims 1, 13, and 24 respectively, Applicants respectfully submit that Claims 4-8, 11-12, 16-18, 21, 23, 27, 28, 31, and 33 likewise are patentable over Wade.

Poindexter describes a reactor vessel closed at its top end by a closure head that includes a stationary outer ring, a large rotatable plug, an intermediate rotatable plug, and a small rotatable plug. Poindexter does not describe nor suggest a reactor servicing platform.

Poindexter does not describe nor suggest a reactor servicing platform as recited in Claim 1, nor a nuclear reactor as recited in Claim 13, nor a method of servicing a nuclear reactor as recited in Claim 24. Particularly, Poindexter does not describe nor suggest a reactor servicing platform that includes a frame comprising a plurality of interconnected beams, a support structure attached to the frame, and a floor attached to and covering the frame, the floor including a reactor access opening sized to permit access to the reactor pressure vessel. Rather, Poindexter describes a reactor vessel closed at its top end by a closure head that includes a stationary outer ring, a large rotatable plug, an intermediate rotatable plug, and a small rotatable plug. Specifically, Poindexter does not describe nor suggest a reactor servicing platform. Accordingly Applicants submit that independent Claims 1, 13, and 24 are patentable over Poindexter.

Claims 4-8 and 11-12 depend from independent Claim 1, Claims 16-18, 21, and 23 depend from independent Claim 13, and Claims 27, 28, 31 and 33 depend from independent

Claim 24. When the recitations of dependent Claims 4-8 and 11-12, 16-18, 21, and 23, and 27, 28, 31 and 33 are considered in combination with the recitations of Claims 1, 13, and 24 respectively, Applicants respectfully submit that Claims 4-8, 11-12, 16-18, 21, 23, 27, 28, 31, and 33 likewise are patentable over Poindexter.

Westinghouse Electric Corporation (FR 2,373,858) is a French patent that claims priority of U.S. Patent Application No. 748,352 which is the parent case of divisional patent US 4,192,558 to Wade and assigned to Westinghouse Electric Corp. described above. The figures in FR 2,373,858 are identical to the figures in Wade described above. Because Wade is a divisional of the application claimed as priority in FR 2,373,858, Applicants can reasonably assume that the specifications in Wade and FR 2,373,858 are also identical. Therefore, for the reasons set forth above in the discussion of Wade, Applicants submit that Claims 1, 4-8, 11-13, 16-18, 21, 23, 24, 27, 28, 31, and 33 are patentable over FR 2,373,858.

For the reasons set forth above, Applicants respectfully request that the Section 102(b) rejection of Claims 1, 4-8, 11-13, 16-18, 21, 23, 24, 27, 28, 31, and 33 be withdrawn.

The rejection of Claims 1, 4, 7, 8, 11, and 12 under 35 U.S.C. § 102(b) as being anticipated by Petermann et al. (US 3,994,365) is respectfully traversed.

Petermann et al. describe a positioning apparatus that includes a first pair of upper support arms 10 and a second pair of lower support arms 11, pivotally mounted on the lower end of a hoist member 12 whose upper end is secured to a hollow tubular hoist stem 14. The hoist stem 14 is mounted for vertical movement and rotational movement within an upper bearing unit 20 and a lower bearing unit 22 which act as vertical guides. A man cage enclosure 24 for enclosing a person is attached to one end of the support arms and counter balance weights are

attached to the other end of the support arms on opposite sides of a pair of pivots 28 and 30 respectively attaching the support arms 10 and 11 to the hoist member 12 to enable pivoting movement. A restricted opening 38 is provided through the upper end of the container tank 34 to enable access to the interior of the tank. The support arms 10 and 11 are pivoted to a retracted position substantially parallel to the longitudinal axis 39 of the cage to support the cage 24 and counterweight 26 adjacent to the hoist member 12 in substantial alignment with the axis 40 of the tank which is coaxial with the axis of hoist stem 14. This enables the positioning apparatus to be moved into and out of the tank 34 through the restricted opening 38 by raising and lowering the hoist member 12.

Petermann et al. do not describe nor suggest a reactor servicing platform as recited in Claim 1. Particularly, Petermann et al. do not describe nor suggest a reactor servicing platform that includes a frame comprising a plurality of interconnected beams, a support structure attached to the frame, and a floor attached to and covering the frame, the floor including a reactor access opening sized to permit access to the reactor pressure vessel, and at least one auxiliary platform extending into the access opening and movable along the perimeter of the access opening of the floor. Rather, Petermann et al. describe a positioning apparatus that includes a cage 24 pivotably attached to a hoist member 12 by upper and lower support arms 10 and 11. Hoist member 12 is attached to hoist stem 14 which provides vertical and rotational movement to hoist member 12 within upper bearing unit 20 and lower bearing unit 22. Further, Applicants respectfully disagree with the suggestions on page 5 of the Office Action on how the present claims read on Petermann et al. Particularly, hoist member 12 is not a frame that includes a plurality of interconnecting beams. Rather hoist member 12 is a single beam member. Also, lower bearing

unit 22 is not a floor attached to and covering the frame. Rather, lower bearing unit 22 rests on the top of the vessel and has hoist member 14 passing through the bearing unit. Bearing unit 22 is not attached to nor does it cover a frame of a servicing platform. Further, the opening through bearing unit 22 is not an access opening in the floor of the servicing platform because the bearing unit is not a servicing platform floor. Accordingly, Applicants submit that Claim 1 is patentable over Petermann et al.

Claims 4, 7, 8, 11, and 12 depend from independent Claim 1. When the recitations of dependent Claims 4, 7, 8, 11, and 12 are considered in combination with the recitations of Claim 1, Applicants respectfully submit that Claims 4, 7, 8, 11, and 12 likewise are patentable over Petermann et al.

For the reasons set forth above, Applicants respectfully request that the Section 102(b) rejection of Claims 1, 4, 7, 8, 11, and 12 be withdrawn.

Further, at least for the reasons set forth above Applicants submit that newly added Claims 34-41 are patentable over the cited art.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Favorable action is respectfully solicited.

Respectfully submitted,



Michael Tersillo
Registration No. 42,180
ARMSTRONG TEASDALE LLP
One Metropolitan Square, Suite 2600
St. Louis, Missouri 63102-2740
(314) 621-5070



24-NS-120748
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Colditz et al. :
Serial No.: 09/683,823 : Art Unit: 3641
Filed: February 20, 2002 : Examiner: R. Palabrica
For: REACTOR SERVICING PLATFORM :

SUBMISSION OF MARKED UP CLAIMS

Commissioner for Patents
Washington, D.C. 20231

A marked-up version of amended Claims 1, 13, and 24, in accordance with 37 C.F.R. § 1.121(c)(1)(ii), follows below.

MARKED UP CLAIMS

1. (twice amended) A reactor servicing platform for a nuclear reactor, the nuclear reactor comprising a reactor pressure vessel positioned in a primary containment and at least one refuel bridge, the primary containment comprising a refueling floor, said servicing platform comprising:

a frame comprising a plurality of interconnected beams;

a support structure attached to said frame;

a floor attached to and covering said frame, said floor comprising a reactor access opening sized to permit access to the reactor pressure vessel; and

at least one auxiliary platform extending into said access opening, said at least one auxiliary platform movable along a perimeter of said access opening of said floor.

13. (twice amended) A nuclear reactor comprising:

a primary containment vessel;
a reactor pressure vessel positioned in said primary containment vessel; and
a reactor servicing platform comprising:
a frame comprising a plurality of interconnected beams;
a support structure attached to said frame;
a floor attached to and covering said frame, said floor comprising a reactor access opening sized to permit access to said reactor pressure vessel; and
at least one auxiliary platform extending into said access opening, said at least one auxiliary platform movable along a perimeter of said access opening of said floor.

24. (twice amended) A method of servicing a nuclear reactor during a reactor outage, the reactor comprising a primary containment vessel and a reactor pressure vessel positioned in the primary containment vessel, said method comprising:

positioning a servicing platform above the reactor pressure vessel, the servicing platform comprising a frame comprising a plurality of interconnected beams, a support structure attached to the frame, a floor attached to the frame, the floor comprising a reactor access opening sized to permit access to the reactor pressure vessel, and at least one auxiliary platform extending into the access opening, the at least one auxiliary platform movable along a perimeter of the access opening of the floor; and

performing predetermined servicing operations on the reactor.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Michael Tersillo", written in black ink.

Michael Tersillo
Registration No. 42,180
ARMSTRONG TEASDALE LLP
One Metropolitan Square, Suite 2600
St. Louis, Missouri 63102-2740
(314) 621-5070